

U. S. GEOLOGICAL SURVEY  
ANNUAL PEAK FLOW FREQUENCY ANALYSIS  
Following Bulletin 17-B Guidelines  
Program peakfq  
(Version 4.0, December, 2000)

Station - 05367030 WILLOW CREEK NEAR EAU CLAIRE, WI  
2002 MAR 13 09:02:52

I N P U T      D A T A      S U M M A R Y

Number of peaks in record	=	43
Peaks not used in analysis	=	0
Systematic peaks in analysis	=	43
Historic peaks in analysis	=	0
Years of historic record	=	0
Generalized skew	=	-0.346
Standard error of generalized skew	=	0.550
Skew option	=	WEIGHTED
Gage base discharge	=	60.0
User supplied high outlier threshold	=	--
User supplied low outlier criterion	=	--
Plotting position parameter	=	0.00

\*\*\*\*\* NOTICE -- Preliminary machine computations. \*\*\*\*\*  
\*\*\*\*\* User responsible for assessment and interpretation. \*\*\*\*\*

WCF133I-SYSTEMATIC PEAKS BELOW GAGE BASE WERE NOTED.	8	60.0
WCF195I-NO LOW OUTLIERS WERE DETECTED BELOW CRITERION.		53.9
WCF163I-NO HIGH OUTLIERS OR HISTORIC PEAKS EXCEEDED HHBASE.		458.9

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ANNUAL FREQUENCY CURVE PARAMETERS -- LOG-PEARSON TYPE III

	FLOOD BASE	LOGARITHMIC		
	EXCEEDANCE DISCHARGE	MEAN	STANDARD DEVIATION	SKEW
SYSTEMATIC RECORD	60.0	0.8140	2.1412	0.2032
BULL.17B ESTIMATE	60.0	0.8140	2.1412	0.2032

ANNUAL FREQUENCY CURVE -- DISCHARGES AT SELECTED EXCEEDANCE PROBABILITIES

ANNUAL EXCEEDANCE PROBABILITY	BULL.17B ESTIMATE	SYSTEMATIC RECORD	'EXPECTED PROBABILITY'	95-PCT CONFIDENCE LIMITS FOR BULL. 17B ESTIMATES	
			ESTIMATE	LOWER	UPPER
0.8000	93.4	93.1	92.6	80.1	106.0
0.5000	138.4	136.8	138.4	122.8	155.9
0.2000	205.2	204.5	207.0	180.8	239.2
0.1000	252.2	254.0	256.5	218.6	302.9
0.0400	314.2	321.7	323.9	266.2	391.8
0.0200	362.2	375.8	378.0	301.7	463.5
0.0100	411.6	433.1	435.6	337.5	539.7
0.0050	462.6	493.9	497.3	373.7	620.6
0.0020	533.1	580.3	586.5	422.6	735.7
0.6667	113.2	( 1.50-year flood )			
0.4292	150.4	( 2.33-year flood )			

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I N P U T    D A T A    L I S T I N G

WATER YEAR	DISCHARGE	CODES	WATER YEAR	DISCHARGE	CODES
1958	190.0		1980	175.0	
1959	400.0		1981	90.0	
1960	140.0		1982	60.0	L
1961	185.0		1983	60.0	L
1962	95.0		1984	60.0	L
1963	170.0		1985	110.0	
1964	180.0		1986	325.0	
1965	255.0		1987	103.0	
1966	188.0		1988	165.0	
1967	182.0		1989	267.0	
1968	170.0		1990	180.0	
1969	88.0		1991	125.0	
1970	100.0		1992	60.0	L
1971	150.0		1993	260.0	
1972	150.0		1994	175.0	
1973	250.0		1995	120.0	
1974	105.0		1996	60.0	L
1975	188.0		1997	60.0	L
1976	108.0		1998	56.3	
1977	307.0		1999	47.0	L
1978	90.0		2000	101.0	
1979	98.0				

Explanation of peak discharge qualification codes

PEAKFQ	WATSTORE	
CODE	CODE	DEFINITION
D	3	Dam failure, non-recurrent flow anomaly
G	8	Discharge greater than stated value
X	3+8	Both of the above
L	4	Discharge less than stated value
K	6 OR C	Known effect of regulation or urbanization
H	7	Historic peak

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EMPIRICAL FREQUENCY CURVES -- WEIBULL PLOTTING POSITIONS

WATER YEAR	RANKED DISCHARGE	SYSTEMATIC RECORD	BULL.17B ESTIMATE
1959	400.0	0.0227	0.0227
1986	325.0	0.0455	0.0455
1977	307.0	0.0682	0.0682
1989	267.0	0.0909	0.0909
1993	260.0	0.1136	0.1136
1965	255.0	0.1364	0.1364
1973	250.0	0.1591	0.1591
1958	190.0	0.1818	0.1818
1966	188.0	0.2045	0.2045
1975	188.0	0.2273	0.2273
1961	185.0	0.2500	0.2500
1967	182.0	0.2727	0.2727
1964	180.0	0.2955	0.2955
1990	180.0	0.3182	0.3182
1980	175.0	0.3409	0.3409
1994	175.0	0.3636	0.3636
1963	170.0	0.3864	0.3864
1968	170.0	0.4091	0.4091
1988	165.0	0.4318	0.4318
1971	150.0	0.4545	0.4545
1972	150.0	0.4773	0.4773
1960	140.0	0.5000	0.5000
1991	125.0	0.5227	0.5227
1995	120.0	0.5455	0.5455
1985	110.0	0.5682	0.5682
1976	108.0	0.5909	0.5909
1974	105.0	0.6136	0.6136
1987	103.0	0.6364	0.6364
2000	101.0	0.6591	0.6591
1970	100.0	0.6818	0.6818
1979	98.0	0.7045	0.7045
1962	95.0	0.7273	0.7273
1978	90.0	0.7500	0.7500
1981	90.0	0.7727	0.7727
1969	88.0	0.7955	0.7955
1982	60.0	--	--
1983	60.0	--	--
1984	60.0	--	--
1992	60.0	--	--
1996	60.0	--	--
1997	60.0	--	--
1998	56.3	--	--
1999	47.0	--	--

